

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-15 (canceled).

16. (New) A sensor element for determining a concentration of a target gas component in a gas mixture, comprising:

    a solid electrolyte body;

    an external electrode exposed to the target gas component and situated in a first cavity formed in the solid electrolyte body;

    an internal electrode situated in the solid electrolyte body; and

    an electrical resistance heater embedded in an electrical insulation, wherein the electrical resistance heater and the electrical insulation are situated inside the solid electrolyte body, and wherein the electrical resistance heater has a meander-shaped heating surface.

17. (New) The sensor element as recited in Claim 16, wherein the external electrode is situated on the bottom of the first cavity facing away from the outside of the solid electrolyte body..

18. (New) The sensor element as recited in Claim 16, wherein the first cavity has an opening to the outside, and wherein the opening is covered by a first cover.

19. (New) The sensor element as recited in Claim 18, wherein the first cover is comprised of a gas-permeable, porous material and covers the first cavity.

20. (New) The sensor element as recited in Claim 18, wherein at least one gas passage hole leading to the first cavity is provided.

21. (New) The sensor element as recited in Claim 20, wherein the at least one gas passage hole is incorporated in one of the solid electrolyte body or in the first cover.

22. (New) The sensor element as recited in Claim 16, wherein the solid electrolyte body has a second cavity formed on an opposite side of the solid electrolyte body from the first cavity, and wherein the second cavity extends over the area of the heating surface.

23. (New) The sensor element as recited in Claim 22, wherein the second cavity is provided from the outer side of the solid electrolyte body facing away from the external electrode, and wherein the second cavity is covered by a second cover.

24. (New) The sensor element as recited in Claim 23, wherein the bottom surface of the second cavity opposite the second cover is provided with a coating having low emissivity.

25. (New) The sensor element as recited in Claim 24, wherein the coating is made of one of: a) high-melting noble metals; or b) oxides of high-melting noble metals.

26. (New) The sensor element as recited in Claim 22, wherein at least one of the first cavity and the second cavity is filled with a highly porous ceramic.

27. (New) The sensor element as recited in Claim 23, wherein braces are positioned in each of the first cavity and the second cavity to brace the first cover and the second cover against the bottom of the corresponding first cavity and the second cavity.

28. (New) The sensor element as recited in Claim 26, wherein the first cover and the second cover are made of a material having a higher thermal coefficient of expansion than a material of the solid electrolyte body.

29. (New) The sensor element as recited in Claim 22, wherein the sensor element is for a wideband lambda sensor, and wherein the internal and external electrodes form a pump cell, and wherein a reference gas channel and a test gas chamber are formed in the solid electrolyte body, the test gas chamber being connected to the first cavity via a

diffusion barrier, and wherein the test gas chamber houses the internal electrode and one of a test electrode or a Nernst electrode opposite from the internal electrode, and wherein a reference electrode is situated within the reference gas channel.

30. (New) The sensor element as recited in Claim 29, wherein the first and second cavities extend over regions of the internal electrode, the external electrode, the one of the test electrode or the Nernst electrode, and the reference electrode.